



**Oil Search (Alaska), LLC  
Seawater Treatment Plant and Make-up Water and Gas Pipelines  
ADL 421488 and 421526  
Proposed Director's Determination  
July 20, 2021**

**Background**

On June 23, 2020, Oil Search Alaska, LLC (OSA), operator of the Pikka Unit (PKU), applied for an easement under AS 38.05.850 to construct and operate a Seawater Treatment Plant (STP) at Oliktok Point as a part of the Pikka Development Project. OSA submitted a second easement application in August of that year to construct and operate a 20-inch make-up water pipeline, a 12-inch fuel gas pipeline, and a fiber optic cable, collectively known as "Pipeline Infrastructure." The Pipeline Infrastructure would facilitate the transport of treated seawater from the STP to a tie-in pad approximately 18 miles south of Oliktok Point. The proposed easements would be located within the Kuparuk River Unit (KRU). Detailed descriptions of both projects are provided below.

On December 18, 2020, the Division of Oil and Gas (Division) issued a conditional easement for the STP and subsequently revised the easement on January 28, 2021. On April 5, 2021, the Division issued a conditional easement for the Pipeline Infrastructure. Both decision documents for the conditional easements required OSA to submit additional project information as it became available and prior to receiving final approvals to construct and operate the facilities.

**Purpose**

The purpose of this proposed Director's Determination (Determination) is to summarize the Division's analysis of the additional information previously requested of OSA in the conditional easements prior to entering the next phase for the two projects. The Division will provide an opportunity for public comment and review all comments received prior to issuing a final determination.

**Project Description**

OSA is planning to build an STP and the associated Pipeline Infrastructure (STP Project) to advance the development of the Pikka Development Project. The purpose of the STP Project is to provide a reliable and predictable supply of make-up water of sufficient quantity and quality for improved hydrocarbon extraction efficiency from the PKU reservoirs.

*Seawater Treatment Plant*

The STP will be constructed off-site on a submersible barge and transported to the North Slope via sealift during the open water season. Upon arrival, the STP barge will be positioned on the east side of Oliktok Point and ballasted down to rest on the ocean floor. Gravel fill will be discharged over the area surrounding the barge and contained with sheet piling. Screeding of the seafloor will occur initially during the open water season when the STP arrives on

location; subsequent to STP installation, screeding may occur in the same area as needed for maintenance of STP operations. The STP will be equipped with a seawater intake structure, filtration system, power generation, and heating system and will be fully functional following connection to the yet-to-be constructed communications systems, fuel gas, and seawater pipelines.

The proposed dimensions of the surface area of the gravel pad and STP barge is 6.83 acres. The initial construction easement will consist of 30.3 acres. The operational easement will consist of 13.0 acres, including buffers.

#### *Seawater Treatment Plant Pipelines and Fiber Optic Cable*

The 16-inch seawater pipeline, 6-to-12-inch fuel gas pipelines, and fiber optic cable will be placed on new horizontal support members (HSMs) and will require approximately 2,115 new 12-to-20-inch-diameter vertical support members (VSMs) spaced 55 to 65 feet apart. The first 0.2 miles of piping will be placed below existing gravel fill and stretch from the east side of Oliktok Point to Eni's Oliktok Production Pad. From there it will run above ground, generally parallel to and within 500 feet of the existing Nikaitchuq Pipeline, Oliktok Road, and Kuparuk Road. The STP pipelines project is expected to require a 626.6-acre construction easement and a 221.18-acre final operation easement once fully constructed.

The pipelines will be centered on the VSMs along the pipeline alignment route. The construction easement will be 300 feet wide, and the operation easement will be 100 feet wide, with a few exceptions around existing obstacles.

Construction activities for this project will include driving sheet piles; driving piles; trenching; excavating; placing gravel fill; screeding; installing VSMs, pipelines, and fiber optic cable; and constructing ice roads and pads. Pipeline construction will take place using ice roads and existing gravel roads for the 2022/2023 and 2023/2024 winter and summer construction seasons. VSM locations will be surveyed and drilled in the winter, followed by VSM installation into the pre-drilled holes using approximately three to six cubic yards of sand slurry per VSM, resulting in discharges to a total of 0.05 acres of jurisdictional waters of the U.S. The minimum embedment for VSMs will be 15 feet in depth or to enough depth to ensure pipeline construction and operation safety, including potential frost jacking, consistent with North Slope best management practices. VSM drilling will occur from ice roads. Pipelines will be placed during the following winter season, with subsequent testing and startup activities occurring in the second summer construction season.

#### **Authorizations**

Prior authorizations related to the STP Project:

- ADL 421488 – STP easement Director's Decision and Entry Authorization, approved December 18, 2020, and revised January 28, 2021
- ADL 421526 - Pipelines and fiber optic cable easement Director's Decision and Entry Authorization, approved April 5, 2021
- ADL 421348 – Tie-in Pad easement Director's Decision and Entry Authorization, approved June 16, 2021

## **Administrative Record**

The administrative record for the STP Project consists of the case files ADL 421488 and ADL 421526. Additionally, the following case files are applicable to the Pikka Development Project.

- BRPC oil and gas lease case file ADL 392627 and 393686
- Mustang Holdings LLC oil and gas lease case file ADL 390680, 390681, 390691, and 390692
- CPAI oil and gas lease case file ADL 25513, 25520, 25570, 25585, 25586, 25587, 25590, 25629, 25630, 25633, 25634, 25641, 25646, 25653, 25654, 25655, 355023, 355024, and 373301
- OSA oil and gas lease case file ADL 391022, 391553, 392962, 392963, 392964, 392966, 392967, 392982, 392983, 392984, 392985, 392986, 392987, 392988, 392989, 393012, 393013, 393014, 393016, 393029, 393879, 393880, and 393881
- CPAI tidelands lease ADL 403737
- OSA LONS 19-003
- Nanushuk Processing Facility Easement ADL 421229
- Nanushuk Operations Pad Easement ADL 421228
- Nanushuk Road and Pump House Pad Easement ADL 421218
- Nanushuk Tie-in Pad Easement ADL 421348
- ENI Onshore Production Pad Easement ADL 419387
- ENI Nikaitchuq Pipelines Easement ADL 417493
- Special Use Lands ADL 50666
- Mustang Road ADL 419880

## **Location**

The PKU is located approximately seven miles northeast of the community of Nuiqsut. The Colville River Unit borders the west side of the PKU and the Oooguruk and Placer Units border the east side. OSA currently holds easements within the Southern Miluveach Unit and the KRU, which are both to the east of the PKU.

### *STP*

**Geographic:** The proposed easement for the STP is located on the eastern shore of Oliktok Point in Simpson Lagoon in the KRU.

**Borough:** The project area is within the North Slope Borough.

**Regional/Village Corporation:** Arctic Slope Regional Corporation

**U.S.G.S. Map:** Beechey Point C-5

### **Legal Description:**

Umiat Meridian

Township 13N, Range 9E, Section 5

### *STP Pipelines and Fiber Optic Cable*

**Geographic:** The proposed easement for the make-up water and gas pipeline project is located within the KRU on the North Slope of Alaska. The pipelines and cable will connect OSA's proposed STP at Oliktok Point to OSA's planned Nanushuk Project TIP, located just northwest of Kuparuk CPF2.

**Borough:** The project area is within the North Slope Borough.

**Regional/Village Corporation:** Arctic Slope Regional Corporation

**U.S.G.S. Map:** Beechey Point C-5 and B-5

### **Legal Description:**

#### Umiat Meridian

Township 11 N, Range 9 E, Sections: 1, 11, 12, 14, 15, 16, and 21

Township 12 N, Range 9 E, Sections: 3, 10, 11, 15, 22, 23, 25, 26, and 36

Township 13 N, Range 9 E, Sections: 4, 5, 9, 16, 21, 28 and 33

### **Division Analysis**

The applications OSA submitted to the Division for the STP Project easements pursuant to AS 38.05.850, provided a conceptual design for the STP Project. The Director's Decisions issued on December 18, 2020, January 28, 2021, and April 5, 2021, all required OSA to submit to the Division more detailed information on the STP Project prior to commencing construction activities. The information required included reasonably foreseeable cumulative impacts on the Oliktok Point area and more detailed engineering documents.

OSA submitted a cumulative impact assessment (CIA), a schedule for the Pikka Development, a fabrication and construction execution plan, a conceptual design basis, equipment lists and arrangements, and process descriptions. Due to timing, safety, and other considerations, the Division determined a PHA was warranted to provide assurance throughout the public process of the applicant's commitment to deliver a safe and operable new STP facility. Pursuant to Alaska Statute 38.05.035(a)(8)(C) and (E), OSA requested that these records be maintained as confidential by the department.

Collectively, the CIA, PHA, and supporting information contained in the documents listed in the paragraph above allowed the Division to analyze further the potential impacts of the project and summarize its analysis in this proposed Determination; however, the STP and Pipeline Infrastructure projects will not be fully sanctioned until a public process is completed and a Front-End Engineering and Design (FEED) package is reviewed and accepted by the Division, at which time a Notice to Proceed (NTP) would be issued to OSA. The public notice and NTP are described in the Conclusion section of this document.

### *Cumulative Impacts Assessment*

The CIA submitted to the Division by OSA included detailed information on hydrology, geomorphology, permafrost, soils, air quality, water quality, vegetation and wetlands, fish and

invertebrates, wildlife, fuel and hazardous materials, visual and aesthetic resources, noise, land ownership, management and use, cultural and historic resources, subsistence and traditional use, socioeconomics, human health and safety, environmental justice, and environmental consequences of each topic for the STP and Pipeline Infrastructure. The Division and the Alaska Department of Environmental Conservation (ADEC) reviewed the CIA for any potential environmental concerns. Comments from the state agencies were submitted to OSA on February 22, 2021. OSA responded on April 8, 2021, with a revised CIA addressing those comments. The revised CIA was reviewed by the Division, ADEC, and Alaska Department of Fish & Game (ADF&G) and no additional comments were made. Additionally, on May 6, 2021, OSA submitted the Oliktok Point Geotechnical Report at the Division's request, which was reviewed by Division subject matter experts.

The STP Project requires additional permits issued by U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), ADEC, and North Slope Borough. Any additional environmental concerns from the state will be addressed by ADEC in its permitting processes. The USEPA and ADEC have regulatory processes in place that specifically address cumulative impacts. These processes and requirements will ensure that the public's interest in water quality and air quality are protected. At the time of this Director's Determination ADEC Air Quality Division has received a Minor Air Source Permit application from OSA and it is currently under review. ADEC Water Division is anticipating pre-application efforts for the Alaska Pollutant Discharge Elimination System (APDES) wastewater discharge permit to begin within the month of July.

#### *Process Hazard Analysis*

The PHA is a documented plan of how to minimize risks and improve safety through engineering and administrative measures to the previous defined plans using best available technology. The Division received a PHA report from OSA on June 23, 2021. The PHA was conducted in compliance with the expectations and regulatory premise outlined in the Occupational Safety and Health Administration's (OSHA) regulation on Process Safety Management of Highly Hazardous Chemicals (29 CFR 1910.119), which dictates requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.

Under 29 CFR 1910.119(e)(3) the PHA shall address the following:

- 1910.119(e)(3)(i) – The hazards of the process;
- 1910.119(e)(3)(ii) – The identification of any previous incident which had a likely potential for catastrophic consequences in the workplace;
- 1910.119(e)(3)(iii) – Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors.);
- 1910.119(e)(3)(iv) – Consequences of failure of engineering and administrative controls;

- 1910.119(e)(3)(v) – Facility siting;
- 1910.119(e)(3)(vi) – Human factors; and
- 1910.119(e)(3)(vii) – A qualitative evaluation of a range of the possible safety and health effects of failure of controls on employees in the workplace.

The scenario-based review was performed by AESolutions, a third-party consultant trained in applying structured and systematic methods to identify risks and consequences for the new STP operations.

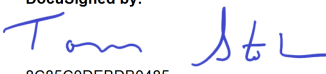
The STP processes identified for the STP Project included seawater intake, filtration, heating, deaeration, chemical treatment, and transport through the pipelines. Utility and chemical systems processes were also discussed. In their analysis, the PHA team used the Hazard Operability (HAZOP) methodology, applying a structured and systematic examination of planned or existing processes to evaluate risk and develop and evaluate scenarios that may arise from these processes. The scenarios helped to identify potential occurrences that may result in increased human or environmental health and safety risk or present major operability problems that could lead to negative economic consequences. Each scenario was assigned a consequence category using the OSA Risk Matrix. Action items were created based on these scenarios to improve the design and operability of the STP, as well as to reduce overall risk.

The PHA report was sent to Division engineers to conduct a completeness review on the analysis and to assist in this proposed determination.

## **Conclusion**

The Division reviewed the supporting documentation provided by OSA and considered the reasonably foreseeable impacts that could occur through the life of the STP Project. Based on the information provided by the applicant, a review of documents and case-file records, and the analysis presented in this Determination, the Director proposes to approve the construction of the STP Project and recommends the following actions be taken:

1. The Division shall solicit written comments and provide for public notice regarding this Director's Determination. To solicit public comments, the Division will place public notices in newspapers of general circulation (Anchorage Daily News and Arctic Sounder). The public notices will be posted in the State of Alaska Online Notice System and the Division Newsroom, and in post offices located in Barrow, Deadhorse, and Nuiqsut.
2. Following completion of the public comment period, and consideration of all comments received, the Director will make a final determination on whether the construction of the STP and Pipeline Infrastructure projects are in the State's interest. As part of this forthcoming decision, the Director will analyze whether OSA is in compliance with all requirements from the Division's December 18, 2020 decision as modified by the January 28, 2021 decision. Assuming the Director concludes the project is in the State's best interest, the Director will issue to OSA a Notice to Proceed containing specific terms and conditions necessary to protect the State's interest.

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Tom Stokes  
Director, Division of Oil and Gas  
Department of Natural Resources

7/19/2021

Date

### **Appeal Provision**

A person affected by this decision who provided timely written comment or public hearing testimony on this decision may appeal it in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of “issuance” of this decision, as defined in 11 AAC 02.040(c) and (d) and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-(907) 269-8918, or sent by electronic mail to [dnr.appeals@alaska.gov](mailto:dnr.appeals@alaska.gov). Under 11 AAC 02.030, appeals and requests for reconsideration filed under 11 AAC 02 must be accompanied by the fee established in 11 AAC 05.160(d)(1)(F), which has been set at \$200 under the provisions of 11 AAC 05.160 (a) and (b).

If no appeal is filed by the appeal deadline, this decision becomes a final administrative order and decision of the department on the 31<sup>st</sup> calendar day after issuance. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to the Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.